

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 3 and 5 have been amended and claims 9-15 have been added as follows:

Listing of Claims:

Claim 1 (original): A high silicon stainless steel which mainly comprises a microstructure with a grain size of 15 μm or less and which has an elongation at break of 12% or higher.

Claim 2 (original): A high silicon stainless steel which mainly comprises a microstructure with a grain size of 7 μm or less and which has an elongation at break of 14% or higher.

Claim 3 (currently amended): A high silicon stainless steel according to claim 1 [[or 2]], wherein the high silicon stainless steel is subjected to thermal aging at a temperature range of 480 to 550°C, and achieves an elongation at break of 7% or higher after the thermal aging.

Claim 4 (original): A high silicon stainless steel according to claim 3, wherein the high silicon stainless steel has a Brinell hardness of 450 or higher.

Claim 5 (currently amended): A spring which is made of the high silicon stainless steel according to ~~any of claims 1 to 4~~ claim 1.

Claim 6 (original): A process for manufacturing a high silicon stainless steel which comprises the step of forging a high silicon stainless steel or a master alloy thereof,

the forging step including:

a load application step for applying an impact load and/or a static load to the high silicon stainless steel or the master alloy, wherein a surface temperature of the high silicon stainless steel or the master alloy is kept at 1,100°C or higher, and is later dropped to a temperature range of 950°C or below and not so low as to break the high silicon stainless steel or the master alloy,

such that the process provides a steel material which mainly comprises a microstructure with a grain size of 15 µm or less.

Claim 7 (original): A process for manufacturing a high silicon stainless steel which comprises the step of forging a high silicon stainless steel or a master alloy thereof,

the forging step including:

a first load application step for applying an impact load and/or a static load to the high silicon stainless steel or the master alloy, wherein a surface temperature of the high silicon stainless steel or the master alloy is kept at 1,100°C or higher, and is later dropped to a temperature range of 950°C or below and not so low as to break the high silicon stainless steel or the master alloy; and

a second load application step for applying an impact load and/or a static load to the high silicon stainless steel or the master alloy, wherein a surface temperature of the high silicon stainless steel or the master alloy is kept at a temperature range from 850 to 1,050°C, and is later changed to

a temperature range of 950°C or below and not so low as to break the high silicon stainless steel or the master alloy,

wherein the first load application step is followed by the second load application step once or more,

such that the process provides a steel material which mainly comprises a microstructure with a grain size of 15 µm or less.

Claim 8 (original): A process for manufacturing a high silicon stainless steel according to claim 7,

wherein a lowest surface temperature for the second load application step is lower than a lowest surface temperature for the first load application step,

wherein the second load application step is conducted more than once, during which a lowest surface temperature for each second load application step is lower than a lowest surface temperature for a previous second load application step so as to reduce a grain size little by little, and

wherein the grain size is controlled by changing the number of times for conducting the second load application step,

such that the production process provides a steel material which mainly comprises a microstructure with a grain size of 15 µm or less.

Claim 9 (new): A high silicon stainless steel according to claim 2,

wherein the high silicon stainless steel is subjected to thermal aging at a temperature range

of 480 to 550°C, and achieves an elongation at break of 7% or higher after the thermal aging.

Claim 10 (new): A high silicon stainless steel according to claim 9, wherein the high silicon stainless steel has a Brinell hardness of 450 or higher.

Claim 11 (new): A spring which is made of the high silicon stainless steel according to claim 2.

Claim 12 (new): A spring which is made of the high silicon stainless steel according to claim 3.

Claim 13 (new): A spring which is made of the high silicon stainless steel according to claim 4.

Claim 14 (new): A spring which is made of the high silicon stainless steel according to claim 9.

Claim 15 (new): A spring which is made of the high silicon stainless steel according to claim 10.